



CALS TEST NETWORK

AFCTN Test Report 93-039

AFTB-ID
93-009



Technical Publication Transfer

Using:



Computer Science Corporation's Data



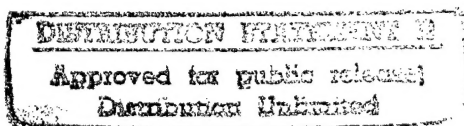
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)



Quick Short Test Report



11 February 1993



Prepared for
Electronic Systems Center



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DTIC QUALITY INSPECTED 3

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11 February 1993

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Computer Science Corporation's (CSC) interpretation and use of the CALS standards in transferring technical publication data. CSC used its J-CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 93-009

Date of
Evaluation: 11 February 1993

Evaluators: George Elwood
Air Force CALS Test Bed
Det 2 HQ ESC/ENCP
Suite 200
4027 Colonel Glenn Hwy
Dayton OH 45431-1672

Data
Originator: Richard Cooper
Computer Science Corporation
Configuration Mgmt M/S 54
Intergrated Systems Division
Moorestown NJ 08057

Data
Description: Technical Manual Test
3 Document Declaration files
3 Document Type Definitions (DTD)
3 Text files
60 Raster files

Data
Source System:

Text/Standard Generalized Markup Language (SGML)

HARDWARE

Unknown

SOFTWARE

Unknown

Raster

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.8 UNIX

AGFA Compugraphics CAPS/CALS v40.4

Texas Instruments (TI) Tapetool v1.0.1 UNIX

MIL-M-28001 (SGML)

Cheetah Gold 486

Exoterica XGMLNormalizer v1.2e3.2

MIL-R-28002 (Raster)

SUN SparcStation 2

ArborText g42tiff

AFCTN validg4

AFCTN calstb.475

IGES Data Analysis (IDA) IGESView v3.0

Rosetta Technologies Prepare/Preview

Cheetah

Inset Systems HiJaak v2.1

Inset Systems HiJaak Window v1.0

Corel Ventura Publisher

Standards

Tested:

MIL-STD-1840A

MIL-M-28001A

MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The tape was hand delivered to the Air Force CALS Test Bed (AFCTB). The tape was not enclosed in a box in accordance with ASTM D 3951.

The tape was not enclosed in a barrier bag or barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. The label only indicated low density which should mean 1600BPI. The tape was in fact recorded at 6250BPI. Some 9-track tape units require this BPI to be set manually. A packing list, showing all files recorded on the tape, was not included.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.8 utility. 136 errors and 70 notes were reported while evaluating the contents of the tape labels. The tape was also read using the TI *Tapetool* v1.0.1. This utility reported 688 errors, 138 warnings and 64 notes. Samples of the errors are shown in Appendix A, Section Two, Tape Import Log of this report.

A note was reported on the tape label version. Per X3.27 para 8.3.1.8 and MIL-STD-1840A para 5.2.1, the standard permits the use of both version three and four. The use of the most current standard should be used and noted.

The files were not named per MIL-STD-1840A. The use of lower case letters for the file name is not permitted as defined in para 5.1.1.1. and 5.1.3 in MIL-STD-1840A. The

use of the lower case letters generated most of the errors during the evaluation of the tape. Shown below is an example of this error.

HDR1d001 IDC00100010001000100 9341 00000 000000

- *** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.
- *** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).
- *** WARNING - This error will cause the software to misinterpret some of the label fields.

The creation date define in the tape header block is incorrect. ANSI X3.27, para. 8.5.1.10 defines this value as a five digit number with the year the first two characters followed by the Julian date.

Creation Date: 9341

- *** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

All data files also were reported as having incomplete blocks. All blocks must be padded to the correct length using spaces " ". Failure to include the padding characters may cause some systems to delete the partial information.

- *** NOTE - Last block was incomplete. Short blocks are prone to be interpreted as noise by some tape drives.
Tape Label = 2048, Actual = 284, Block Number = 173

When AGFA CAPS read1840A utility was used to read the tape it generated the error message "illegal file type t" and quit.

The physical structure of the tape does not meet the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

66 errors and 12 notes were found in the Document Declaration file and data file headers. No errors were reported in the three Document Declaration Files.

All three header files for the DTD files had similar errors. When data is inserted into the Document Declaration file, the same data must be carried throughout the document for the same records. The "srcdocid" and "dstdocid" values were different in the DTD header than what had been defined in the Document Declaration file.

```
srcdocid: oess.dtd
*** ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'srcdocid: '.
    Expected => srcdocid: oess.hub
*** NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value
    in the Document Declaration File.
*** NOTE - Correction made in new Document Type Declaration Header File.

dstdocid: oess.dtd
*** ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'dstdocid: '.
    Expected => dstdocid: oess.hub
*** NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value
    in the Document Declaration File.
*** NOTE - Correction made in new Document Type Declaration Header File.
notes: NONE
```

All 60 Raster images had the same reported error for the "rdensty" record. MIL-R-28002A defines the permitted values for this record. The inserted 80 is not one of the permitted values.

```
rdensty: 0080
*** ERROR (MIL-R-28002; 3.1.1.4) - Invalid value for 'rdensty: '.
    Expected image density => 200, 240, 300, 400, 600, or 1200.
```

This portion of the tape does not meet the CALS MIL-STD-1840A requirements.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the tape.

5. SGML Analysis

The tape contained three DTDs and three Text files. The DTD were found to be exactly alike. The DTD was parsed using Exoterica's *XGMLNormalizer* with a few minor errors which were corrected.

The Text file D001T001 was parsed using the corrected DTD from the tape. The first pass resulted in many errors, most of which were related to graphic references. A check of the DTD shown the lack of external reference notations. These reference were included along with the fax notation.

Another reported error was caused by a tag broken across two line. When this was corrected, and the graphic notations fixed, only one error was reported during the parsing operation.

Error on line 1031 in file i:\9309\d001t001:
Unable to expand entity reference.
The general entity 'mdash' is undefined.

When file D002T001 was parsed, 24 errors were reported. All but one of these errors relate to tags breaking across lines. When text area was visually inspected it was noted that no new lines were present, which caused most of the tags in this area to break across lines. This is a problem that was identified by the AFCTB in 1992 and clarification has been requested from the ISO 8879 committee. Our comments were forwarded to all committee members in early 1993.

The AFCTB was unable to complete work on file D003T001 because of an excessive length line. The file could not be transferred between the UNIX and DOS systems.

Using the corrected files, Datalogics's *ParseStation* reported no problems with the DTD. The Text file D001T001 had two reported errors. See the Appendix for the logs.

The SGML files do not meet the CALS MIL-M-28001A specification.

6. Raster Analysis

All 60 Raster images were checked using the AFCTN *validg4* utility. All of the files were reported as being in error. An attempt to read several files into the AFCTN *calstb.475* resulted in a core dump.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement. All operations were performed using the default settings.

An attempt to convert a sample of the files using Arbor-text's *g42tiff* generated an error message indicating that the files had errors. An example message was:

Faxcode3Decode2D <filename> Premature EOF at Scanline 593.

All samples tried generated this same type message.

An attempt was made to read the files into IDA's *IGESView*. All selected files were reported as being in error.

When selected files were converted using Rosetta Technologies' *Prepare*, it generated error messages about the premature EOF but would generate a partial file. This file could be viewed and printed using *Preview* with the problem area noted on the bottom of the file. *Prepare* filled the end of the file with spaces. The viewed and printed images were very grainy, probably from the low Raster density.

Inset Systems' *HiJaak* was used to convert the selected files to an IMG format. All files converted with the exception of D003R008 which was reported as being bad. The files resulting from this conversion were read into Corel's *Ventura Publisher* and printed. It was noted that the resolution was not very good.

The files were imported, viewed, and printed using Inset Systems' *HiJaak for Windows*. File D003R008 was reported as being in error. The rest of the selected files were handled without a problem.

The Raster files do not meet the CALS MIL-R-28002A specification.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on the tape.

8. Conclusions and Recommendations

In summary, the tape from CSC had many critical errors. The tape could be read properly using the AFCTN Tapetool Software regardless of the tape label errors. The tape errors did cause the AGFA CAPS read1840A utility to terminate immediately after starting the read operation. The physical structure of the tape does not meet the CALS MIL-STD-1840A requirements.

The tape had three Text files and one DTD. The DTD needed to be corrected before parsing operation could begin. All three Text files had reported errors. Most errors were traced to tags breaking across lines. The SGML files do not meet the CALS MIL-M-28001A specification.

The errors with the Raster images are serious. The construction of the Raster files appears to be flawed which resulted with unusable files. These unusable files were checked using several different Raster software tools. It was possible to read part of the files with two commercial products in the AFCTB; however, the Raster files do not meet the CALS MIL-R-28002A specification.

The tape submitted by CSC does not meet the CALS MIL-STD-1840A requirements.

9. Submitter Comments

The following comments are made with respect to QSTR 93-009 performed on a presumably MIL-STD-1840A compliant tape produced, which contained JCALS deliverable documents.

The Air Force CALS Test Network (AFCTN) Office seems to have done a thorough job evaluating this tape. Most of these comments are designed to help us see how and where we have failed along the path to producing a MIL-STD-1840A compliant tape. Some comments are directed at the specification and application of MIL-STD-1840A.

External Packaging

The tape was not placed in a barrier bag or sheet material. No label was affixed to the tape. The tape had been used previously. Any label present must have been a remnant from its previous use.

We produced this tape quickly and didn't take the time necessary to comply with MIL-STD-1840A external packaging constraints. In the future, our delivery policy will have to be changed to adhere to these external packaging constraints.

Tape Formats

The current version of 1840X writes ANSI version 3.

The current version of 1840X writes files to tape with lower case letters instead of the required upper case letters.

The creation date on the tape header is generated by 1840X. There appears to be an error in the format 1840X produces. The creation date was 10 February 1993 which should be formatted for the tape header as 93041 but which was erroneously formatted as 9341.

All Raster files did not have final blocks padded with spaces to complete block length. Neither MIL-STD-1840A nor MIL-R-28002A appear to specify this requirement. Nor does this appear to be an ANSI requirement. Clarification of the source of this requirement is requested.

Declaration and Header Fields

The srcdocid and dstdocid records on the DTD headers were incorrect. Since we did not make an attempt to validate the tape produced, we missed the opportunity to see the warning indicating these headers were incorrect.

The Raster file resolution used throughout was 80 and is not permitted by MIL-R-28002A.

SGML Analysis

There was a DTD present for each file set on the tape. MIL-STD-1840A 4.1.1.1.4 specifies that a file for a technical publication document containing SGML Non-conforming Files shall include, among others, the Document Type Definition Data file (one file per document, mandatory). The file set types present on this tape were SGML Non-conforming. Thus, a DTD was provided with each document as required even though this is somewhat redundant and wasteful.

When writing text files (e.g. a DTD or SGML instance) to tape, MIL-STD-1840A specifies the ANSI type D variable length record format with 2048 byte block length is to be used. The maximum record length allowed is 256 bytes. The defacto method for handling these variable length files is applications of MIL-STD-1840A is to fill each record to the maximum record length. Thus, the file appears very similar to that of the ANSI type F fixed length record format. There is currently a bug within 1840X which, when a record is being filled and a new line is not reached before the record is filled, adds at least one new line at the end of the record. With 1840X sometimes a new line is added when reading a file in this state also. This is a bug with 1840X and we acknowledge its existence. These added new lines are spurious.

However, this would be an appropriate time to take issue with the use of the ANSI type D variable length record format. There is no benefit obtained from its use in MIL-STD-1840A. We point out several problems that present themselves upon its use.

1. How are records to be delimited so that the variable length record can truly be used as such? Record ends can appear in one or two places: internal to the ASCII file and external based upon the projection of the file on the native file system. Packaging files for transport in a variable length record format must take this into account.

2. What is to be done with record ends? Should they be dropped from the files as they are written to tape and added by the receiving system reading the tape? Record ends can be different with respect to the system upon which the files reside (e.g. Unix, DOS, and Macintosh OS) internally and externally and can consist of different lengths and format constraints.

3. How does one denote a record which has exceeded the maximum record length of the variable length record format? How and where is it to be broken? Is it even to be allowed?

Those implementing applications of MIL-STD-1840A have eventually encountered these problems. The existence of these problems is the reason for implementation via the defacto method described. It allows applications to ignore the problem with respect to the variable length record format. Applications are only tripped up when the defacto method is not known. There is no statement of this in MIL-STD-1840A so implementors are left to fend for themselves on this issue.

These problems do not present themselves if the ANSI type F fixed length record format is used in all cases for file data transport using MIL-STD-1840A. But it appears that the experience obtained from attempting to implement the requirements is not to be applied in MIL-STD-1840B. Again, variable length records are to be used for text files with not mention of the inherent problem this presents or the defacto method with which to apply these requirements. When the requested clarification is received from the ISO 8879 committee, it will most certainly point out that this problem is not something inherent with SGML and is beyond the scope for which they can officially comment. In short, we can eventually fix this problem but the solution is via a requirement to which MIL-STD-1840A should clarify and adhere or, more appropriately, change.

The following comments concern the content of the SGML instances.

1. Page 8, "Error on line 1031 is file: Unable to expand entity reference. The general entity 'mdash' is undefined."

Error occurred because CSC has not defined the entity "mdash" (or other special characters) in its DTD. Internally, this does not cause any problems and our internal systems handle the lack of definition in a number of currently acceptable methods: Arbortext SGML Editor uses its own set of special characters, and the special characters are defined in the current version of the Datalogics composer.

CSC is in the process of updating its DTD to include the proper declaration of special characters.

2. Page 28, "The generic ID CHGLIST has not been defined in any content model, inclusion, or as a doctype element."

"The generic ID DATE has not been defined in any content model, inclusion, or as a doctype element."

"The generic ID SHORTTITLE has not been defined in any content model, inclusion, or as a doctype element."

CSC agrees that this is an error as reported. These elements are "relics" from the template DTD in MIL-M-28001A, which CSC used as a starting point for its DTD. These elements will be removed from the DTD.

3. Page 30, "Fatal Error Encountered."

CSC can only speculate on the cause of this error because little information is provided. No reference to the error is provided in the Exoterica error list.

CSC believes that the error may have been caused by the computer running out of memory because of the nesting level. This may be a bug in the Datalogics parser. The parser itself has a confusing reporting style, putting out the content of the element and the error on the same file. The text from "<item>" to the colon preceding the "Memory allocation failure" is content, which originally led us to believe it was part of the error. Our guess is that the parser simply ran out of memory when the nesting level became too much for it to handle. This is not an SGML error.

4. Page 31, errors related to "boardno."

The problem with the boardno on page 31 is something that occurs because of problems with the Phase 2 prototype version of the Controlled Access Folder Executive (CAFE) that CSC is currently using. Basically, the problem is that the attribute value of boardno is defined to be an entity. this means that it must be either an SGML subdocument entity or a data entity. Since it is not a subdocument it must be a data entity. The declaration for the objects are all predefined to be text objects. For the composition via Datalogics this is no problem because it ignores the notation declarations and, in fact, ignores the suffix in the file name. For the WordPerfect conversion, it is not a problem since the graphics are not inserted in the file. this error will be fixed when CSC transitions to the actual JCALS CAFE.

One final note. CSC routinely uses the Exoterica parser to validate DTDs and SGML instances; however, the documents provided on the tape were not parsed and validated prior to delivery. In the future, most errors can be easily corrected with the establishment of a process that includes a validation step before generation of the tape.

Raster Analysis

The Raster files were not padded to a complete multiple of the block size before writing to tape. The result is that the final partial block was dropped. Thus, the last portion of each image was deleted and the files ended prematurely. It is a failure for 1840X to drop the final partial block. Although we take issue with the lack of a stated MIL-STD-1840A requirement to pad a final partial block, it is our failure to insure that files are complete.

The resolution at which these rasters were generated is 80 dots per inch. This is not an acceptable MIL-R-28002A resolution. It is not known why the 80 dots per inch resolution was selected for the production of these rasters. The rasters which existed (not all were on the tape) were received in the TIFF format at the time the tape was produced. Since we did not make an attempt to validate the tape produced, we missed the opportunity to see the warning indicating these rasters were at the unacceptable resolution.

Additional Problems Not Identified In QSTR 93-009

The Raster graphics for the FASS, Appendix A were not provided on the tape.

All figure and graphic tags appeared twice on the TSS: once as <figure> and <graphic> and again as <FIGURE> and <GRAPHIC>. There is probably something wrong with this instance.

Some <graphic> tags were immediately followed by a boardno attribute which was not within the tag delimiters.

10. Appendix A - Tapetool Report Logs

10.1 Tape Catalog

Texas Instruments Catalog Evaluation - Version 1.0; Release Number 1

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- MIL-R-28003 (1988) - Digital Representation For Communication Of
Illustration Data; CGM Application Profile
- ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Feb 11 08:17:38 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/tt13/Set006

Tape Volume ID: IDC001

Page: 1

File Name	File Type	Record Format/ Block Length Length/Total	Selected/ Partial/ Extracted
d001	Document Declaration	D/00260 02048/000001	Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd001' has a Document Declaration Prefix in lower case. Renaming file from => /cals/tt13/Set006/d001 to => /cals/tt13/Set006/D001			
d002	Document Declaration	D/00260 02048/000001	Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd002' has a Document Declaration Prefix in lower case. Renaming file from => /cals/tt13/Set006/d002 to => /cals/tt13/Set006/D002			
d003	Document Declaration	D/00260 02048/000001	Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd003' has a Document Declaration Prefix in lower case. Renaming file from => /cals/tt13/Set006/d003 to => /cals/tt13/Set006/D003			
d001t001	SGML Text	D/00260 02048/000173	Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd001t001' has a			

Document Declaration Prefix in lower case.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'd001t001' has a file type in lower case.
Renaming file from => /cals/tt13/Set006/d001t001
to => /cals/tt13/Set006/D001T001
d001g002 Document Type Declaration D/00260 02048/000018 Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd001g002' has a
Document Declaration Prefix in lower case.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'd001g002' has a file type in lower case.
Renaming file from => /cals/tt13/Set006/d001g002
to => /cals/tt13/Set006/D001G002
d001r003 Raster F/00128 02048/000004 Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd001r003' has a
Document Declaration Prefix in lower case.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'd001r003' has a file type in lower case.
Renaming file from => /cals/tt13/Set006/d001r003
to => /cals/tt13/Set006/D001R003

<<<< PART OF LOG REMOVED HERE >>>>

d003r017 Raster F/00128 02048/000003 Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd003r017' has a
Document Declaration Prefix in lower case.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'd003r017' has a file type in lower case.
Renaming file from => /cals/tt13/Set006/d003r017
to => /cals/tt13/Set006/D003R017
d003r018 Raster F/00128 02048/000002 Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'd003r018' has a
Document Declaration Prefix in lower case.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'd003r018' has a file type in lower case.
Renaming file from => /cals/tt13/Set006/d003r018
to => /cals/tt13/Set006/D003R018

Catalog Process terminated with 135 error(s), 0 warning(s), and 0 note(s).

10.2 Tape Evaluation Log

Texas Instruments Tape Evaluation - Version 1.0; Release Number 1

Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Feb 11 08:11:58 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1IDC001

3

Label Identifier: VOL1

Volume Identifier: IDC001

Volume Accessibility:

Implementation Identifier:

Owner Identifier:

Label Standard Version: 3

*** NOTE (ANSI X3.27; 8.3.1.8) - The Label Standard Version should be 4 to represent the current level of ANSI X3.27.

HDR1d001 IDC00100010001000100 9341 00000 000000

*** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.

*** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).

*** WARNING - This error will cause the software to misinterpret some of the label fields.

Label Identifier: HDR1

File Identifier: d001

File Set Identifier: IDC001

File Section Number: 0001

File Sequence Number: 0001
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

*** ERROR (ANSI X3.27; 8.5.1.4) - The characters in File Identifier must be a-characters.

*** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

Minimum Block Size Found = 457 Bytes.
Maximum Block Size Found = 457 Bytes.

*** NOTE - Last block was incomplete. Short blocks are
proned to be interpreted as noise by some tape drives.
Tape Label = 2048, Actual = 457, Block Number = 1

Number of data blocks read = 1.

EOF1d001 IDC00100010001000100 9341 00000 000001

*** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.

*** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).

*** WARNING - This error will cause the software to misinterpret some of the label fields.

Label Identifier: EOF1
File Identifier: d001
File Set Identifier: IDC001
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000001
Implementation Identifier:

*** ERROR (ANSI X3.27; 8.5.1.4) - The characters in File Identifier must be a-characters.

*** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

<<<< PART OF LOG REMOVED HERE >>>>

***** Tape Mark *****

HDR1d001t001

IDC00100010004000100 9341 00000 000000

*** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.

*** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).

*** WARNING - This error will cause the software to misinterpret some of the label fields.

Label Identifier: HDR1
File Identifier: d001t001
File Set Identifier: IDC001
File Section Number: 0001
File Sequence Number: 0004
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

*** ERROR (ANSI X3.27; 8.5.1.4) - The characters in File Identifier must be a-characters.

*** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

Minimum Block Size Found = 284 Bytes.
Maximum Block Size Found = 2048 Bytes.

*** NOTE - Last block was incomplete. Short blocks are
proned to be interpreted as noise by some tape drives.
Tape Label = 2048, Actual = 284, Block Number = 173

Number of data blocks read = 173.

EOF1d001t001 IDC00100010004000100 9341 00000 000173

*** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a

length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.

- *** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).
- *** WARNING - This error will cause the software to misinterpret some of the label fields.

Label Identifier: EOF1
File Identifier: d001t001
File Set Identifier: IDC001
File Section Number: 0001
File Sequence Number: 0004
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000173
Implementation Identifier:

- *** ERROR (ANSI X3.27; 8.5.1.4) - The characters in File Identifier must be a-characters.
- *** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

<<<<< PART OF LOG REMOVED HERE >>>>>

***** Tape Mark *****

HDR1d003r018

IDC00100010069000100 9341 00000 000000

- *** ERROR (ANSI X3.27; 6.2.1) - A label shall be a record that shall have a

length of 80 bytes. Each label shall be recorded within the first or only 80 byte positions of a block.

- *** ERROR (ANSI X3.27; 8.1) - Unless otherwise stated, the characters in the labels shall be coded in accordance with ANSI X3.4-1986. The 57 characters used in the labels shall be those positions of the standard code table in ANSI X3.4-1986 listed on page 13 of ANSI X3.27-1987 (errors are marked by ^ and are printed as spaces in the label if necessary).
- *** WARNING - This error will cause the software to misinterpret some of the label fields.

Label Identifier: HDR1
File Identifier: d003r018
File Set Identifier: IDC001
File Section Number: 0001
File Sequence Number: 0069
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

- *** ERROR (ANSI X3.27; 8.5.1.4) - The characters in File Identifier must be a-characters.
- *** ERROR (ANSI X3.27; 8.5.1.10) - The last five characters in Creation Date must be digits.

HDR2F0204800128

00

Label Identifier: HDR2
Recording Format: F
Block Length: 02048
Record Length: 00128
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

Minimum Block Size Found = 1792 Bytes.
Maximum Block Size Found = 2048 Bytes.

- *** NOTE - Last block was incomplete. Short blocks are prone to be interpreted as noise by some tape drives.
Tape Label = 2048, Actual = 1792, Block Number = 2

EOF1d003r018 IDC00100010069000100 9341 00000 000002

- ```
Label Identifier: EOF1
File Identifier: d003r018
File Set Identifier: IDC001
File Section Number: 0001
File Sequence Number: 0069
Generation Number: 0001
Generation Version Number: 00
Creation Date: 9341
Expiration Date: 00000
File Accessibility:
Block Count: 000002
Implementation Identifier:
```

- EOF2F0204800128 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

\*\*\*\*\* Tape Mark \*\*\*\*\*

##### End of Volume IDC001 #####

##### End Of Tape File Set #####

Rewinding tape to load point...

Deallocating /dev/rmt0...

Tape Import Process terminated with 553 error(s), 138 warning(s),  
and 64 note(s).



---

## 10.3 Tape File Set Validation Log

Texas Instruments File Set Evaluation - Version 1.0; Release Number 1

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

MIL-STD-804C (1990) - Formats and Coding of Aperture, Camera, Copy,  
and Tabulating Cards

MIL-R-28002 (1989) - Raster Graphics Representation In Binary  
Format, Requirements For

Thu Feb 11 08:17:57 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set006

Found file: D002

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Computer Sciences Corporaion Integrated Systems Division JCALS Imaging Center

srcdocid: fass.hub

srcrelid: NONE

chglvl: ORIGINAL

dteisv: 19930104

dstsys: PM/JCALs

dstdocid: fass.hub

dstrelid: NONE

dtetrm: 19930210

dlvacc: NONE

filcnt: t1,g1,r36

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Functional Area Segment Specification

docttl: JCALS System Functional Area Segment Specification

Searching for data files...

Found file: D002T001

Extracting SGML Text Header Records...

Evaluating SGML Text Header Records...

srcdocid: fass.hub

dstdocid: fass.hub

txtfilid: W

doccls: UNCLASSIFIED

notes: NONE

Saving SGML Text Header File: D002T001\_HDR  
Saving SGML Text Data File: D002T001\_TXT

Found file: D002G002  
Extracting Document Type Declaration Header Records...  
Evaluating Document Type Declaration Header Records...

srcdocid: fass.dtd  
\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'srcdocid: '.  
Expected => srcdocid: fass.hub  
\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.  
\*\*\* NOTE - Correction made in new Document Type Declaration Header File.  
dstdocid: fass.dtd  
\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'dstdocid: '.  
Expected => dstdocid: fass.hub  
\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.  
\*\*\* NOTE - Correction made in new Document Type Declaration Header File.  
notes: NONE

2 error(s), 0 warning(s), and 4 note(s) were encountered  
in Document Type Declaration File D002G002.  
Saving Document Type Declaration Header File: D002G002\_HDR  
Saving Document Type Declaration Data File: D002G002\_DTD

Found file: D002R003  
Extracting Raster Header Records...  
Evaluating Raster Header Records...

srcdocid: fass.hub  
dstdocid: fass.hub  
txtfilid: W  
figid: B.1  
srcgph: O47  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 001120,000680  
rdensty: 0080  
\*\*\* ERROR (MIL-R-28002; 3.1.1.4) - Invalid value for 'rdensty: '.  
Expected image density => 200, 240, 300, 400, 600, or 1200.  
notes: NONE

1 error(s), 0 warning(s), and 0 note(s) were encountered

---

---

in Raster File D002R003.  
Saving Raster Header File: D002R003\_HDR  
Saving Raster Data File: D002R003\_GR4

Found file: D002R004  
Extracting Raster Header Records...  
Evaluating Raster Header Records...

srcdocid: fass.hub  
dstdocid: fass.hub  
txtfilid: W  
figid: B.2  
srcgph: O47A  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 001120,000680  
rdensty: 0080  
\*\*\* ERROR (MIL-R-28002; 3.1.1.4) - Invalid value for 'rdensty: '.  
Expected image density => 200, 240, 300, 400, 600, or 1200.  
notes: NONE

1 error(s), 0 warning(s), and 0 note(s) were encountered  
in Raster File D002R004.  
Saving Raster Header File: D002R004\_HDR  
Saving Raster Data File: D002R004\_GR4

<<<< PART OF LOG FILE REMOVED HERE >>>>>

Evaluating Document D002 numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking Document D002 file count...  
No errors were encountered during file count verification.  
File Count verification complete.

Saving Document D002 Map File: MAP.LIS

A total of 38 error(s), 0 warning(s), and 4 note(s) were  
encountered in Document D002.

Found file: D003  
Extracting Document Declaration Header Records...  
Evaluating Document Declaration Header Records...

srcsys: Computer Sciences Corpotaion Integrated Systems Division JCALS Imaging Center

srcdocid: tss.hub  
srcrelid: NONE  
chglvl: ORIGINAL  
dteis: 19930104  
dstsys: PM/JCAL  
dstdocid: tss.hub  
dstrelid: NONE  
dtetrm: 19930210  
dlvacc: NONE  
filcnt: t1,g1,r16  
ttlcls: UNCLASSIFIED  
doccls: UNCLASSIFIED  
doctyp: Telecommunications Segment Specification  
docttl: JCALS System Telecommunications Segment Specification

Searching for data files...

Found file: D003T001  
Extracting SGML Text Header Records...  
Evaluating SGML Text Header Records...

srcdocid: tss.hub  
dstdocid: tss.hub  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: NONE

Saving SGML Text Header File: D003T001\_HDR  
Saving SGML Text Data File: D003T001\_TXT

Found file: D003G002  
Extracting Document Type Declaration Header Records...  
Evaluating Document Type Declaration Header Records...

srcdocid: tss.dtd  
\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'srcdocid: '.  
Expected => srcdocid: tss.hub  
\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.  
\*\*\* NOTE - Correction made in new Document Type Declaration Header File.  
dstdocid: tss.dtd  
\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'dstdocid: '.  
Expected => dstdocid: tss.hub  
\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.  
\*\*\* NOTE - Correction made in new Document Type Declaration Header File.  
notes: NONE

---

2 error(s), 0 warning(s), and 4 note(s) were encountered  
in Document Type Declaration File D003G002.  
Saving Document Type Declaration Header File: D003G002\_HDR  
Saving Document Type Declaration Data File: D003G002\_DTD

Found file: D003R003  
Extracting Raster Header Records...  
Evaluating Raster Header Records...

srcdocid: tss.hub  
dstdocid: tss.hub  
txtfilid: W  
figid: 1.1  
srcgph: o22  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 000880,000680  
rdensty: 0080

\*\*\* ERROR (MIL-R-28002; 3.1.1.4) - Invalid value for 'rdensty: '.  
Expected image density => 200, 240, 300, 400, 600, or 1200.  
notes: NONE

1 error(s), 0 warning(s), and 0 note(s) were encountered  
in Raster File D003R003.  
Saving Raster Header File: D003R003\_HDR  
Saving Raster Data File: D003R003\_GR4

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Evaluating Document D003 numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking Document D003 file count...  
No errors were encountered during file count verification.  
File Count verification complete.

Saving Document D003 Map File: MAP.LIS

A total of 18 error(s), 0 warning(s), and 4 note(s) were  
encountered in Document D003.

Found file: D001  
Extracting Document Declaration Header Records...  
Evaluating Document Declaration Header Records...

---

srcsys: Computer Sciences Corportaion Integrated Systems Division JCALS Imaging Center  
srcdocid: oess.hub  
srcrelid: NONE  
chglvl: ORIGINAL  
dteisu: 19930104  
dstsys: PM/JCALS  
dstdocid: oess.hub  
dstrelid: NONE  
dtetrn: 19930210  
dlvacc: NONE  
filcnt: t1,g1,r8  
ttlcls: UNCLASSIFIED  
doccls: UNCLASSIFIED  
doctyp: Operating Environment Segment Specification  
docttl: JCALS System Operating Environment Segment Specification

Searching for data files...

Found file: D001G002

Extracting Document Type Declaration Header Records...

Evaluating Document Type Declaration Header Records...

srcdocid: oess.dtd

\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'srcdocid: '.  
Expected => srcdocid: oess.hub

\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.

\*\*\* NOTE - Correction made in new Document Type Declaration Header File.

dstdocid: oess.dtd

\*\*\* ERROR (MIL-STD-1840A; 5.1.4.2) - Invalid value for 'dstdocid: '.  
Expected => dstdocid: oess.hub

\*\*\* NOTE (MIL-STD-1840A; 5.1.4.2) - The value must match the value  
in the Document Declaration File.

\*\*\* NOTE - Correction made in new Document Type Declaration Header File.

notes: NONE

2 error(s), 0 warning(s), and 4 note(s) were encountered  
in Document Type Declaration File D001G002.

Saving Document Type Declaration Header File: D001G002\_HDR

Saving Document Type Declaration Data File: D001G002\_DTD

Found file: D001R003

Extracting Raster Header Records...

Evaluating Raster Header Records...

srcdocid: oess.hub

dstdocid: oess.hub  
txtfilid: W  
figid: 1.1  
srcgph: o44  
doccls: UNCLASSIFIED  
rtype: 1  
rorient: 000,270  
rpelcnt: 000880,000680  
rdensty: 0080  
\*\*\* ERROR (MIL-R-28002; 3.1.1.4) - Invalid value for 'rdensty: '.  
Expected image density => 200, 240, 300, 400, 600, or 1200.  
notes: NONE

1 error(s), 0 warning(s), and 0 note(s) were encountered  
in Raster File D001R003.  
Saving Raster Header File: D001R003\_HDR  
Saving Raster Data File: D001R003\_GR4

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Found file: D001T001  
Extracting SGML Text Header Records...  
Evaluating SGML Text Header Records...

srcdocid: oess.hub  
dstdocid: oess.hub  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: NONE

Saving SGML Text Header File: D001T001\_HDR  
Saving SGML Text Data File: D001T001\_TXT

Evaluating Document D001 numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking Document D001 file count...  
No errors were encountered during file count verification.  
File Count verification complete.

Saving Document D001 Map File: MAP.LIS

A total of 10 error(s), 0 warning(s), and 4 note(s) were  
encountered in Document D001.

A grand total of 66 error(s), 0 warning(s), and 12 note(s) were

---

encountered in File Set Set006.

## 10.4 Other Tape Reading Logs

The AGFA CAPS read1840A reported an illegal file type and terminated.



## 11. Appendix B - Detailed SGML Analysis

### 11.1 Datalogics Parser Log

#### 11.1.1 DTD Log

SGML Document Type Definition Parser  
Version 3.36  
Copyright (c) Datalogics 1988, 1989, 1990, 1991  
An SGML System Conforming to  
International Standard ISO 8879  
Standard Generalized Markup Language

Log file: '9309.LOG'  
SDO File: 'ctnddecl.sdo'  
Namecase General is yes.  
Namecase Entity is no.  
Parsing DTD file: '9309.dtd'

DTD0096: The generic ID CHGLIST has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID DATE has not been used in any content  
model, inclusion, or as a doctype element.  
DTD0096: The generic ID SHORTTITLE has not been used in any content  
model, inclusion, or as a doctype element.  
This DTD conforms to the ISO 8879 standard

DTO file '9309.DTO' created

closing statistics:  
Capacity points: 23624  
Bytes of DTO file string space: 6074  
SGML descriptor blocks: 2258

Document Type Definition is compliant and parsed normally.

Program status code: 0.

---

## 11.1.2 D001T001 Log

IPA0108:        \*\*\* SGML Instance Parser Log File \*\*\*  
Source Document File: '9309-1.txt'.  
Job File:        '9309-1.jbf'.  
DTD File:        ''.  
SGML Declaration File: ''.

Reading File '9309-1.jbf', File Type 'JOB FILE'.

Concrete Syntax Settings In Effect For This Parse:

NAMECASE GENERAL: YES.  
NAMECASE ENTITY: NO.  
NAMELEN:        32.  
SHORTTAG:       YES.

Closed '9309-1.jbf', File Type 'JOB FILE'.

Reading File '9309-1.txt', File Type 'DIRECT INPUT FILE'.

--> Scanned Up To Line 100 In 9309-1.txt.  
--> Scanned Up To Line 200 In 9309-1.txt.  
--> Scanned Up To Line 300 In 9309-1.txt.  
--> Scanned Up To Line 400 In 9309-1.txt.  
--> Scanned Up To Line 500 In 9309-1.txt.  
--> Scanned Up To Line 600 In 9309-1.txt.  
--> Scanned Up To Line 700 In 9309-1.txt.  
--> Scanned Up To Line 800 In 9309-1.txt.  
--> Scanned Up To Line 900 In 9309-1.txt.  
--> Scanned Up To Line 1000 In 9309-1.txt.

Transaction Capacity Limits: The system's transaction capacity requirements  
are a function of both the intra&mdash;IPA0082: Unknown General Entity Name: 'mdash'.

Error On Line 1031.

State: 'DOC.BODY.SECTION.PARA0.SUBPARA1.SEQLIST.ITEM'.

--> Scanned Up To Line 1100 In 9309-1.txt.  
--> Scanned Up To Line 1200 In 9309-1.txt.  
--> Scanned Up To Line 1300 In 9309-1.txt.  
--> Scanned Up To Line 1400 In 9309-1.txt.  
--> Scanned Up To Line 1500 In 9309-1.txt.  
--> Scanned Up To Line 1600 In 9309-1.txt.  
--> Scanned Up To Line 1700 In 9309-1.txt.  
--> Scanned Up To Line 1800 In 9309-1.txt.  
--> Scanned Up To Line 1900 In 9309-1.txt.  
--> Scanned Up To Line 2000 In 9309-1.txt.  
--> Scanned Up To Line 2100 In 9309-1.txt.  
--> Scanned Up To Line 2200 In 9309-1.txt.  
--> Scanned Up To Line 2300 In 9309-1.txt.

--> Scanned Up To Line 2400 In 9309-1.txt.  
--> Scanned Up To Line 2500 In 9309-1.txt.  
--> Scanned Up To Line 2600 In 9309-1.txt.  
--> Scanned Up To Line 2700 In 9309-1.txt.  
--> Scanned Up To Line 2800 In 9309-1.txt.  
--> Scanned Up To Line 2900 In 9309-1.txt.  
--> Scanned Up To Line 3000 In 9309-1.txt.  
--> Scanned Up To Line 3100 In 9309-1.txt.  
--> Scanned Up To Line 3200 In 9309-1.txt.  
--> Scanned Up To Line 3300 In 9309-1.txt.  
--> Scanned Up To Line 3400 In 9309-1.txt.  
--> Scanned Up To Line 3500 In 9309-1.txt.  
--> Scanned Up To Line 3600 In 9309-1.txt.  
--> Scanned Up To Line 3700 In 9309-1.txt.  
--> Scanned Up To Line 3800 In 9309-1.txt.  
--> Scanned Up To Line 3900 In 9309-1.txt.  
--> Scanned Up To Line 4000 In 9309-1.txt.  
--> Scanned Up To Line 4100 In 9309-1.txt.  
--> Scanned Up To Line 4200 In 9309-1.txt.  
--> Scanned Up To Line 4300 In 9309-1.txt.  
--> Scanned Up To Line 4400 In 9309-1.txt.  
--> Scanned Up To Line 4500 In 9309-1.txt.

Home directory &lt;11980>

</item><item label="3.">

UNIX shell program executed on logon &lt;IPA0059: Memory Allocation Failure.

Error On Line 4514.

State:

'DOC.BODY.SECTION.PARA0.SUBPARA1.SUBPARA2.SUBPARA3.SUBPARA4.SUBPARA5.PARA.SEQLIST.  
QLIST.ITEM'.

Fatal Error Encountered.

## 11.2 Exoterica Parser

C:\XGML\XGMLNORM.EXE --  
Error on line 12 in file i:\9309\d001t001:  
Syntax error.  
Error in end tag.  
The last text seen was "CD".  
Expecting to see the end of the tag next.

C:\XGML\XGMLNORM.EXE --  
Error on line 13 in file i:\9309\d001t001:  
Unexpected text encountered.  
The current element is 'CDRLID'.  
End tags for the following elements are allowed: 'CDRLID'.  
Start tags for the following elements are allowed: None.  
Start tags for the following inclusions are allowed: 'BRK', 'FTNOTE',  
'SPACE'.  
Text is not allowed.  
The extra text will be allowed anyway.

C:\XGML\XGMLNORM.EXE --  
Error on line 15 in file i:\9309\d001t001:  
An end tag for an element that is not open is not allowed.  
The element is 'TITLE'.  
The current element is 'CDRLID'.  
End tags for the following elements are allowed: 'CDRLID'.  
Start tags for the following elements are allowed: None.  
Start tags for the following inclusions are allowed: 'BRK', 'FTNOTE',  
'SPACE'.  
Text is not allowed.  
The end tag will be ignored.

C:\XGML\XGMLNORM.EXE --  
Error on line 71 in file i:\9309\d001t001:  
Entity attribute value is neither external, CDATA nor SDATA.  
For start tag 'GRAPHIC': For REQUIRED ENTITY attribute 'BOARDNO'="o44"..

C:\XGML\XGMLNORM.EXE --  
Error on line 115 in file i:\9309\d001t001:  
Entity attribute value is neither external, CDATA nor SDATA.  
For start tag 'GRAPHIC': For REQUIRED ENTITY attribute 'BOARDNO'="o46"..

C:\XGML\XGMLNORM.EXE --  
Error on line 142 in file i:\9309\d001t001:  
An end tag for an element that is not open is not allowed.  
The element is 'SECTION'.

The current element is 'BODY'.  
End tags for the following elements are allowed: 'BODY'.  
Start tags for the following elements are allowed: 'PARA0'.  
Start tags for the following inclusions are allowed: 'FTNOTE', 'PGBRK'.  
Text is not allowed.  
The end tag will be ignored.

C:\XGML\XGMLNORM.EXE --  
Error on line 142 in file i:\9309\d001t001:  
Unexpected start tag encountered.  
The start tag is for element 'SECTION'.  
The current element is 'BODY'.  
End tags for the following elements are allowed: 'BODY'.  
Start tags for the following elements are allowed: 'PARA0'.  
Start tags for the following inclusions are allowed: 'FTNOTE', 'PGBRK'.  
Text is not allowed.  
The element 'SECTION' will be treated as an inclusion.

<<<< REMAINDER OF LOG REMOVED >>>>

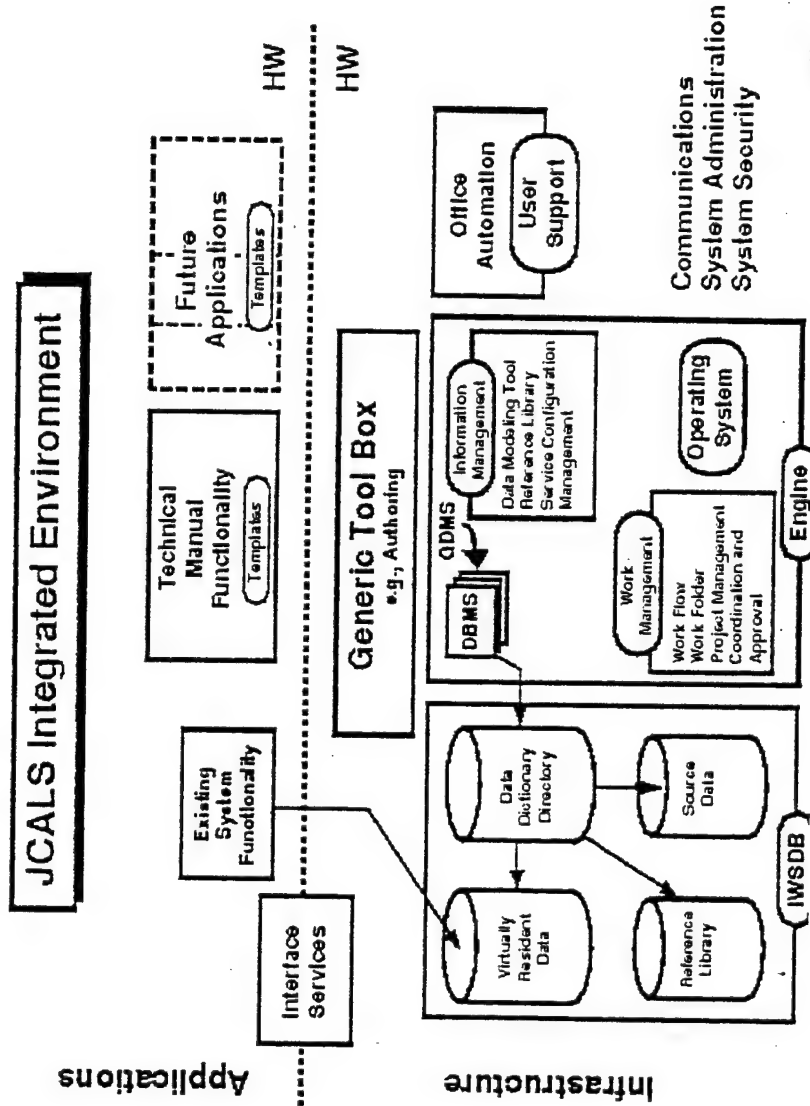
Errors after tag on line 12 was placed on one line and DTD  
modified to address the graphic elements.

C:\XGML\XGMLNORM.EXE --  
Error on line 1031 in file i:\9309\d001t001:  
Unable to expand entity reference.  
The general entity 'mdash' is undefined.

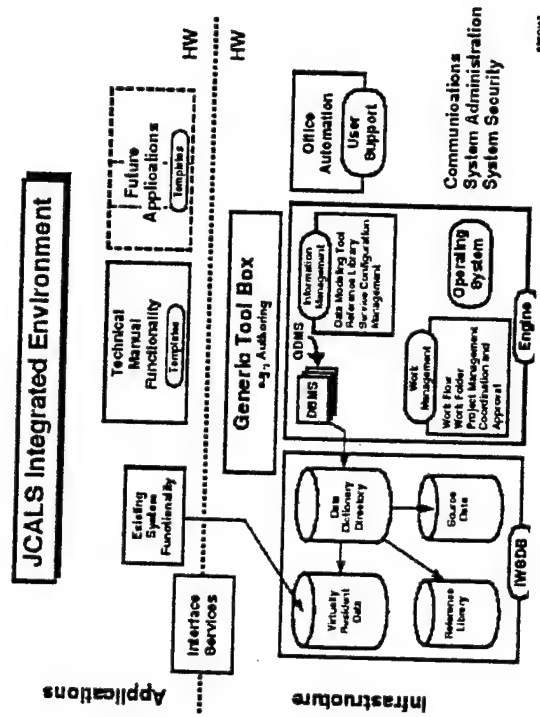
## 12. Appendix C - Detailed Raster Analysis

### 12.1 File D001R003

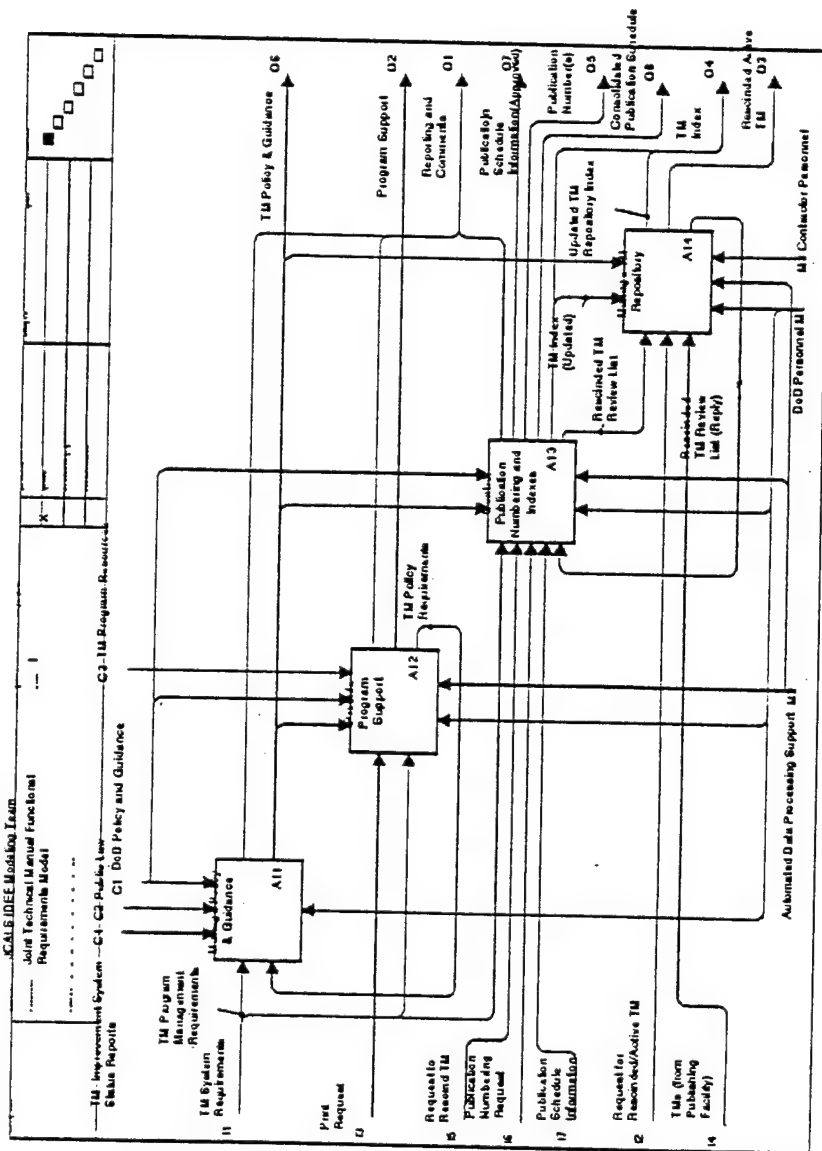
#### 12.1.1 Output Preview



## 12.1.2 Output Hijaak for Windows

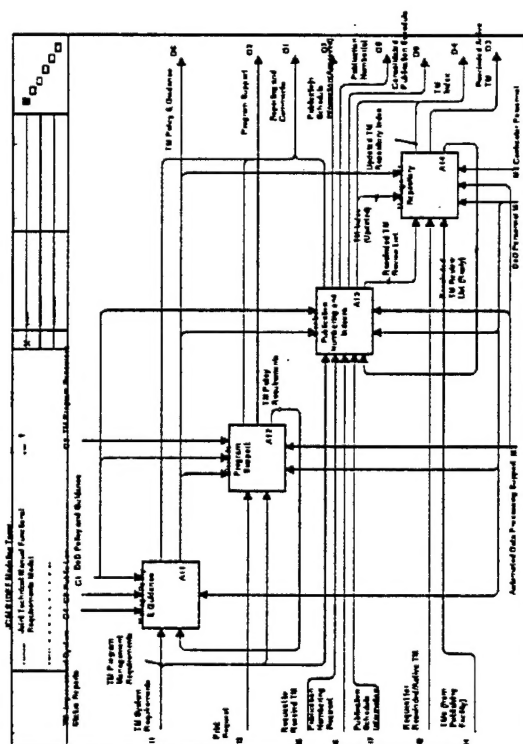


## 12.2.1 Output Preview



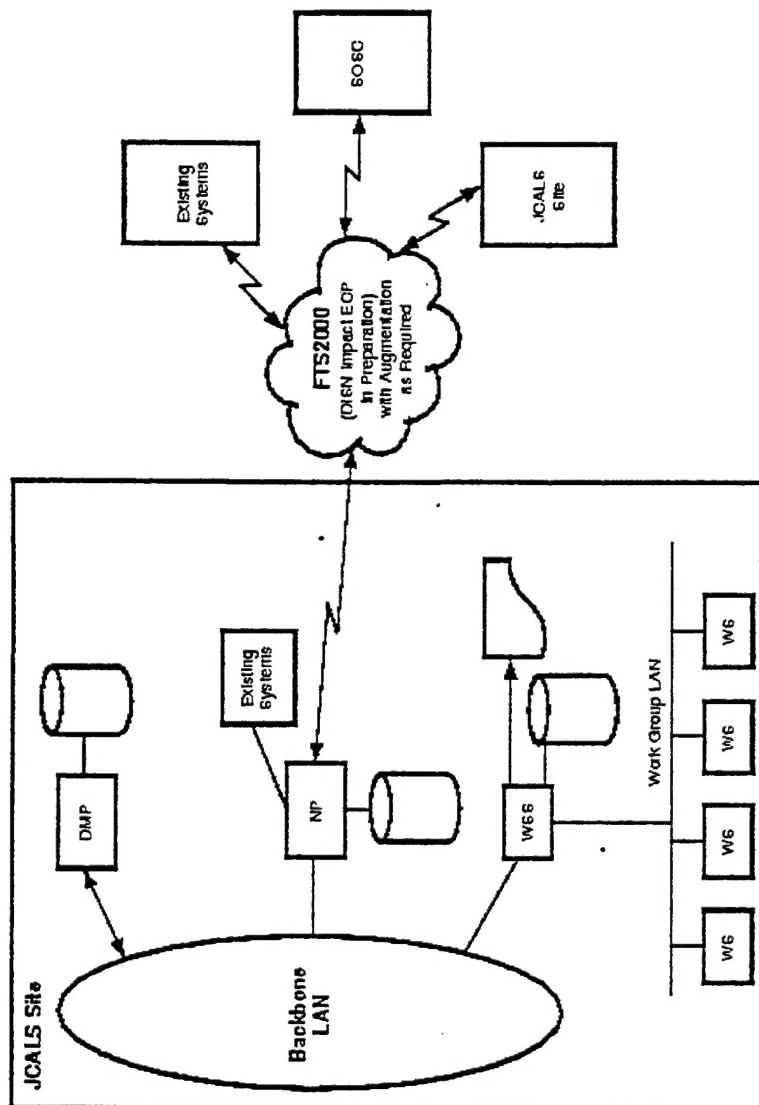


### 12.2.2 Output HiJaak for Windows



## 12.3 File D003R012

### 12.3.1 Output Preview



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Figure 3-1 Overview of the JCALS Telecommunications Subsystem

## 12.3.2 Output HiJaak for Windows

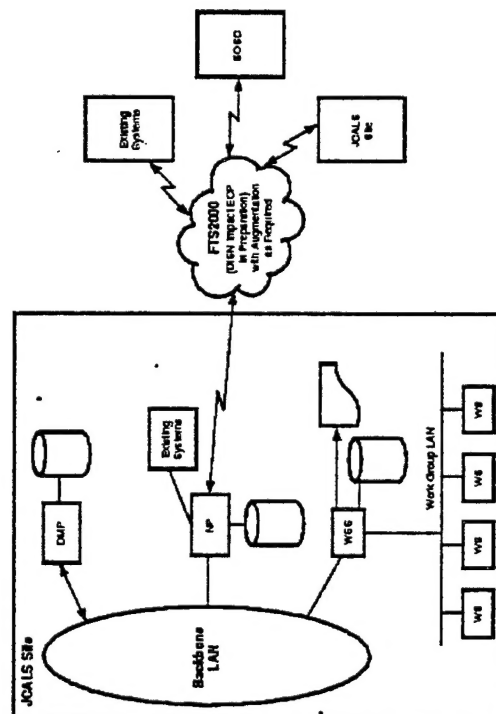


Figure 2-1 Overview of the JOALS Telecommunications Subsystem

### 12.3.3 Output Ventura Publisher

